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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,581	03/31/2004	Michael J. Antal JR.	UOHIP006D1	9383
22434	7590	08/04/2006	EXAMINER	
BEYER WEAVER & THOMAS, LLP			NECKEL, ALEXA DOROSHENK	
P.O. BOX 70250				
OAKLAND, CA 94612-0250			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 08/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/815,581	ANTAL, MICHAEL J.
	Examiner Alexa D. Neckel	Art Unit 1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 20-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not clear that the specification provides support for the newly added limitation to claim 20 wherein biomass material within the canister is "ignitable to form a flame front only by heating with said heater".

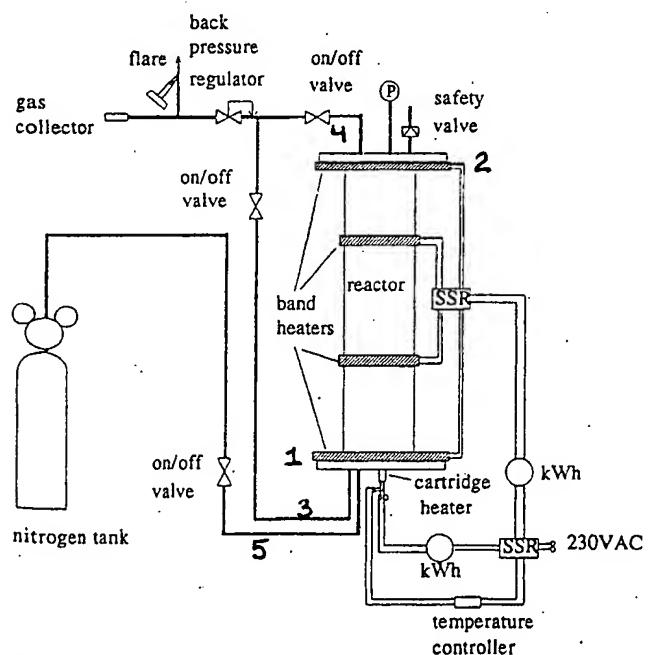
### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 20-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antal Jr. et al. ("High-Yield Biomass Charcoal" from Energy & Fuels 1996, Vol. 10, Number 3, pages 652-658) in view of Bergman (WO 98/51434) and Tucker (4,385,905).

With respect to claim 20, Antal Jr. et al. discloses a reactor (figure 2) which comprises a housing (pressure vessel) with a sealable opening (pressure-tight hinged closure) for receiving a removable canister with a lid; heaters which heat the distal end (2) of the canister (fig. 2) (page 653, col. 2, paragraph under "Apparatus and

Experimental Procedures"); a first valved exit orifice (3) at a proximal end (1) and a second valved exit (4) orifice at a distal end (2) of the housing (pressure vessel); and a valved entry orifice (5) at the proximal end (1) (page 653, col. 2, paragraph under "Apparatus and Experimental Procedures").

Figure 2 of Antal Jr. et al. does not provide reference numbers, so the examiner has numbered various elements below to provide further clarification of how the reference has been applied.



**Figure 2.** Schematic of the laboratory reactor.

The canister having a lid and by being lowered into the pressure vessel would result in minimal exposure of the canister contents to the atmosphere (page 653, col. 2, paragraph under "Apparatus and Experimental Procedures").

Antal Jr. et al. discloses band heaters in locations in addition to the distal end and fails to disclose locating a heater solely at the distal end.

Tucker teaches wherein downdraft gasifiers (where combustion occurs first due to heating at one end) can be used to produce specific intermediate equilibrium states giving better control over gas composition (col. 2, lines 14-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to eliminate each of the heating bands beyond the distal end of the device of Antal Jr. et al in order to gain the control taught by Tucker. In addition, it has been held that the omission of an element and its function is obvious if the function of the element is not desired. *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989); *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965); and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

Antal Jr. et al. also fails to disclose any insulation in the device.

Bergman also teaches a pressure vessel (1) with a removable carrier (5) and heating devices (13) placed within the vessel (1) and provides insulation (4) so that it surrounds at least a portion of the carrier (5) (figure 1) so that heat dissipation to the surrounding pressure vessel wall is low (p. 5, line 22 –p. 6, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide insulation to the canister within the pressure vessel of Antal Jr. et al., as taught by Berman, in order to prevent dissipation of heat to the pressure vessel wall.

With respect to claim 21, Antal Jr. et al. further discloses wherein the heaters are resistance heaters (page 653, col. 2, paragraph under "Apparatus and Experimental Procedures").

With respect to claim 22, Antal Jr. et al. further discloses wherein a flare (burner) is in communication with the second valved exit (4) (see figure 2).

With respect to claim 24, the schematic illustration of Antal Jr. et al. has been applied so that the proximal end (1) is at the bottom and the distal end (2) is at the top of the vertically arranged device shown in figure 2. The device of Antal Jr. et al. arranged so that the proximal end (1), and its associated elements, is at the top while the distal end (2), and its associated elements, is at the bottom of the vessel would still be the same apparatus (only turned on end). It appears from the description of the operation of Antal Jr. et al.'s device, that in such an orientation, the device would continue to be operational. It has been held that there is no invention in shifting the location of parts when the operation of the device would not thereby be modified. In re Japikse, 86 USPQ 70 (CCPA 1950).

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Antal Jr. et al. ("High-Yield Biomass Charcoal" from Energy & Fuels 1996, Vol. 10, Number 3, pages 652-658) in view of Bergman (WO 98/51434) and Tucker (4,385,905) as applied to claim 20 above, and further in view of Kippelman (5,290,523).

The schematic of the apparatus of Antal Jr. et al (figure 2) only illustrates that the valved entry (5) passes into the proximal end (1) but fails to illustrate if it extends into the canister.

Kippelman discloses a method and apparatus for upgrading carbonaceous fuel which heats and pressurizes (col. 10, lines 24-40) bio-mass material to transform it into charcoal (col. 11, lines 17-19). Kippelman further teaches wherein preheating the inert

gas feed results in reductions in overall operation time (col. 8, lines 52-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to extend the feed line of Antal Jr. et al. into the canister so that the heat of operation would preheat the nitrogen feed in order to achieve reductions in operation time as taught by Koppelman.

***Response to Arguments***

6. Applicant's arguments filed May 19, 2006 have been fully considered but they are not persuasive.

**Antal Jr. et al.**

Applicant argues that Antal discloses multiple heaters and therefore does not read on the claim as presently amended.

This newly presented limitation has been addressed above in the new rejection of the claims necessitated by the amendment.

**Koppelman**

Applicant argues that Koppelman is irrelevant to the present claim because applicant does not input inert gas, but rather inputs air, and that applicant's reactor is not preheating incoming air.

The examiner respectfully disagrees. Koppelman was not used to modify applicant's invention, but rather the device of Antal which does input inert gas. Once again, the material worked upon (such as air) is not given patentable weight in an apparatus claim, MPEP 2115, and in this case amounts to a recitation of intended use

of the claimed device. Therefore the limitation of the device using a feed of air is not given weight in the claim.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

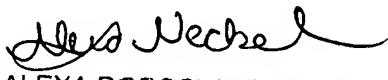
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Calderola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexa D. Neckel  
Primary Examiner  
Art Unit 1764

August 2, 2006



ALEXA DOROSHENK NECKEL  
PRIMARY EXAMINER